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| First Action Interview Pilot Program Pre-Interview Communication | Application No. 10/585,121 | Applicant(s) MARUYAMA ET AL. | |
| | Examiner HENG M. CHAN | Art Unit 1795 | Page 1 of 2 |

-The MAILING OR NOTIFICATION DATE of this communication appears on the cover sheet with the correspondence address -
 THE SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **ONE MONTH OR THIRTY (30) DAYS**, WHICHEVER IS LONGER, FROM THE MAILING OR NOTIFICATION DATE OF THIS COMMUNICATION.

This time period for reply is extendable under 37 CFR 1.136(a) for only ONE additional MONTH.

This communication constitutes notice under 37 CFR 1.136(a)(1)(i).

Applicant must, within the time period for reply, file: (1) A letter requesting not to have a first action interview; (2) A reply under 37 CFR 1.111 waiving the first action interview and First Action Interview Office Action; or (3) An Applicant Initiated Interview Request Form (PTOL-413A) electronically via EFS-Web, accompanied by a proposed amendment or arguments, and schedule the interview within 2 months from the filing of the request. A failure to respond to this communication will be treated as a request not to have an interview. If applicant waives the First Action Interview Office Action, the instant Pre-Interview Communication is deemed the first Office Action on the Merits. The next subsequent Office action may be made final if appropriate. See MPEP 706.07(a).

Disposition of Claims

- 3) ☒ Claim(s) 1-20 is/are pending in the application.
 3a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 4) ☐ Claim(s) _____ is/are allowed.
- 5) ☒ Claim(s) 1-20 is/are rejected.
- 6) ☐ Claim(s) _____ is/are objected to.
- 7) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 8) ☐ The specification is objected to by the Examiner.
- 9) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 10) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 11) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

Contact Information

Examiner's Telephone Number: (571)270-5859
 Examiner's Typical Work Schedule: Monday to Friday, 9:00 am EST to 6:00 pm EST
 Supervisor's Name: Jennifer K. Michener
 Supervisor's Telephone Number: (571)272-1424

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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| First Action Interview Pilot Program Pre-Interview Communication | Application No. 10585121 | Applicant(s) MARUYAMA ET AL. | |
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Notification of Rejection(s) and/or Objection(s)

| # | Claim(s) | Reference(s) (if applicable) | Rejection Statutory Basis | Brief Explanation of Rejection |
|---|-------------------------------------|---------------------------------|------------------------------|--|
| 1 | 2-4, 6-8, 10, 12, and 17 | | claim objections | The instant claims should begin with "The..." to indicate that the subject matter was introduced in previous claims. A comma should be placed between "(C)" and "and" in the last line of claim 6 to avoid a run-on sentence. |
| 2 | 3, 6-8, 12, 13, 15, and 17-20 | | 112, 2nd | Claim 3 recites "the exchangeable inorganic ions" in lines 1 and 2. Claim 6 recites "the conductive substrate" in lines 1 and 2. There are insufficient antecedent bases for these limitation in the claims. (see continuation below) |
| 3 | 1 | U | 102(b) | U teaches an electrolyte comprising an organically modified layered clay mineral, e.g. a montmorillonite modified with poly(oxypropylene) diamine (D-2000), and an ionic liquid, e.g. lithium triflate (see continuation below) |
| 4 | 2, 3 | U | 102(b)/103 | product-by-process claims, no structural differences. See MPEP § 2112.01. In this case, U teaches an organically modified layered clay mineral, D-2000 montmorillonite (title, abstract; introduction; page 9764 2nd paragraph). |
| 5 | 1-20 | N, U | 103 | N does not expressly teach that the electrolyte comprises a layered clay mineral and/or an organically modified layered clay mineral. U teaches this in (title, abstract, conclusion). it would have been obvious to have added (see continuation below) |

Expanded Discussion/Commentary

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| 2 | | Claims 12, 13, and 15 are rejected for depending on the indefinite claim 3. Claims 7, 8, and 17-20 are rejected for depending on the indefinite claim 6. |
| 3 | | (title, abstract; introduction; page 9764 2nd paragraph). The limitation "for a photovoltaic device" is a recitation of an intended use of the claimed invention in the preamble. See MPEP § 2111.02. In this case, since the prior art electrolyte comprises the claimed elements, the prior art electrolyte is considered to be capable of performing the intended use. |
| 5 | | the claimed layered clay mineral for the benefits described in introduction and conclusion of U. |
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| DATE: 8/11/2010 | | /HENG M CHAN/ Examiner, Art Unit 1795 |
| | | /Jennifer K. Michener/ Supervisory Patent Examiner, Art Unit 1795 |